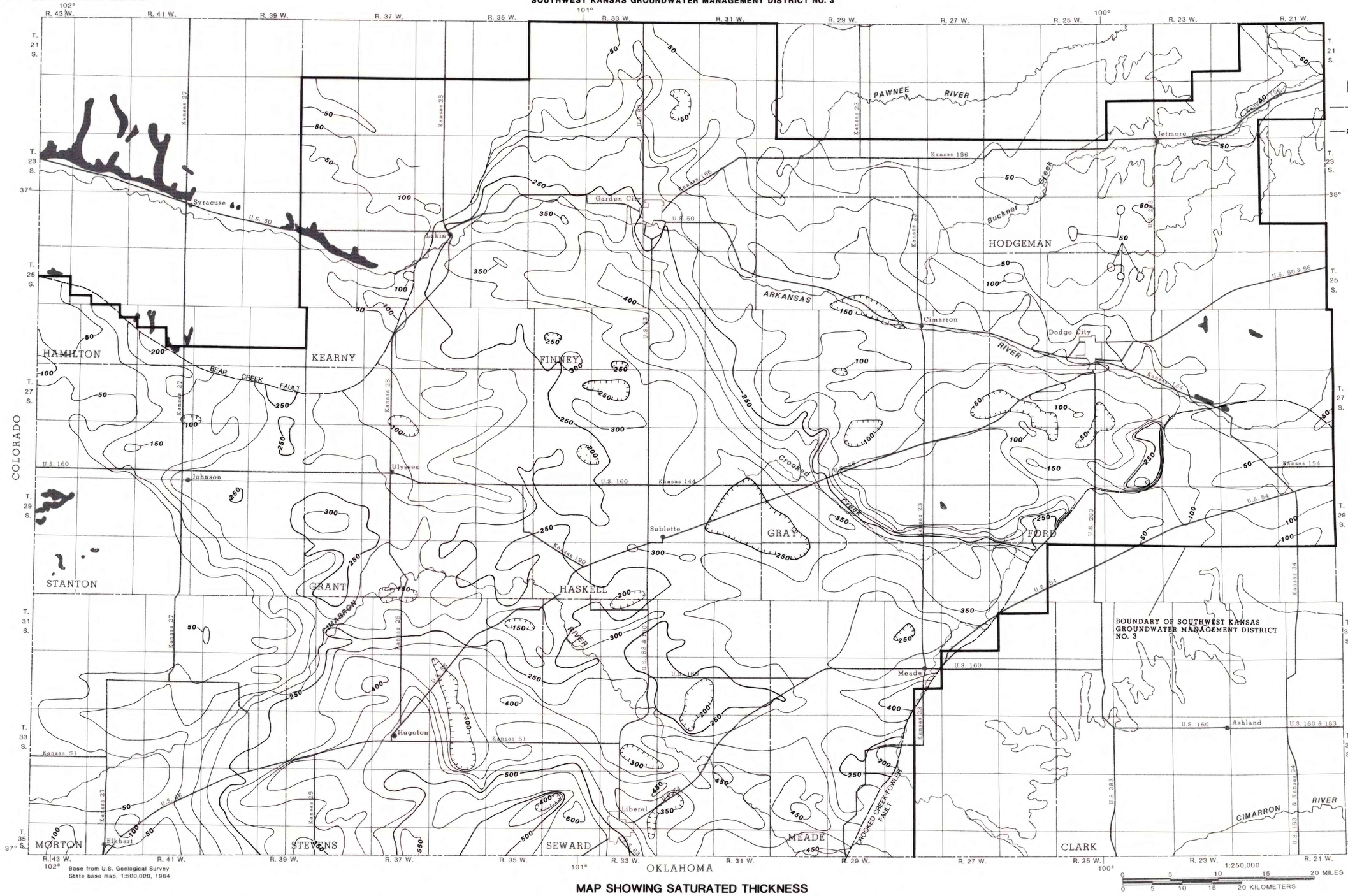
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
SOUTHWEST KANSAS GROUNDWATER MANAGEMENT DISTRICT NO. 3

WATER-RESOURCES INVESTIGATIONS REPORT 88-4039
SHEET 3 OF 4



Base from U.S. Geological Survey
State base map, 1:500,000, 1964

MAP SHOWING SATURATED THICKNESS

HYDROLOGIC MAPS OF THE HIGH PLAINS AQUIFER, SOUTHWESTERN KANSAS, JANUARY 1986

By
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1988

SATURATED THICKNESS, JANUARY 1986

Maps showing the saturated thickness of the High Plains aquifer in southwestern Kansas (sheets 3 and 4) were constructed using the difference between center-of-section values for the water table and the altitude of the bedrock surface as modified from Watts and Stullken (1981). The altitude of the bedrock surface is considered accurate only to the nearest 25 feet; therefore, saturated-thickness values also are accurate only to the nearest 25 feet. Lines of equal saturated thickness (sheet 3) were drawn by a computer using the kriged center-of-section values and revised manually where smoothing algorithms caused a line to plot on the wrong side of data-point values. Calculated data values are shown on sheet 4 for the 7,464 sections where the saturated thickness was 10 feet or greater.

In a general way, thickness of saturated material may be related to the volume of water in storage. Areas having the greatest saturated thickness would have the greatest volume of water available for use. The percentage of the saturated thickness that is water ranges from about zero to 25 percent and averages about 17 percent (Stullken and others, 1985). The maximum saturated thickness of the High Plains aquifer is 613 feet in southwestern Seward County. The average saturated thickness for the 7,570 sections where the saturated thickness was greater than zero was 197 feet, representing about 164 million acre-feet of ground water in storage.

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